CLAIMS

1. A semiconductor device manufacturing system, comprising:

a semiconductor device manufacturing apparatus;

a particle detecting part that detects particles adhered to a substrate which has been subjected to a predetermined treatment by the semiconductor device manufacturing apparatus;

an evaluation data creating part that creates evaluation data for evaluating a state of particle adhesion based on a detection result of the particle detecting part;

a storage part that stores previously created correspondence data relating to a correspondence between the evaluation data and causes of particle adhesion to the substrate; and

a determining part that determines a cause of particle adhesion to the substrate based on the evaluation data created by the evaluation data creating part and the correspondence data stored in the storage part.

2. The semiconductor device manufacturing system according to claim 1, wherein:

the particle detecting part is configured to output, as the detection result, data in which representative values each representing a state of particle adhesion in each of detection unit areas are correlated to addresses of the respective detection unit areas, the detection unit areas being defined by dividing a surface of the substrate;

the evaluation data is data in which evaluation values each representing the state of particle adhesion in each of evaluation areas are correlated with addresses of the respective evaluation areas, the evaluation areas being defined by dividing a surface of the substrate; and

each of the evaluation areas includes a plurality of detection unit areas, and each of the evaluation values is an

output of a function to which the representative values of the plurality of detection unit areas included in the evaluation area are applied.

3. The semiconductor device manufacturing system according to claim 2, wherein

each of the evaluation values corresponds to a size and/or the number of particles existing in the detection unit areas included in the evaluation area.

4. The semiconductor device manufacturing system according to claim 2, wherein

each of the evaluation values is expressed as binarized data.

5. The semiconductor device manufacturing system according to claim 4, wherein

each of the evaluation values expressed as binarized data is determined based on a fact that the number of particles existing in the detection unit areas included in the evaluation area is larger, or not larger than a predetermined reference value.

6. The semiconductor device manufacturing system according to claim 1, wherein

the evaluation data creating part is configured to create evaluation data with respect to only a part or parts of a surface of the substrate.

7. The semiconductor device manufacturing system according to claim 1, wherein

the evaluation data creating part is configured to create evaluation data based on a comparison between a detection result obtained before a substrate is subjected to a predetermined treatment by the semiconductor device manufacturing apparatus, and a detection result obtained after

the substrate has been subjected to the predetermined treatment.

8. The semiconductor device manufacturing system according to claim 1, further comprising:

a display part that displays the cause of particle adhesion to the substrate determined by the determining part.

9. The semiconductor device manufacturing system according to claim 1, further comprising:

means for outputting a control signal to the semiconductor device manufacturing apparatus based on the cause of particle adhesion to the substrate determined by the determining part.

10. The semiconductor device manufacturing system according to claim 1, comprising:

a particle inspecting device that inspects particles on a substrate; and

a controlling part arranged separately from the particle inspecting device to control the semiconductor device manufacturing apparatus;

wherein:

the particle detecting part and the evaluation data creating part are arranged in the particle inspecting device; and

the storage part and the determining part are arranged in the controlling part.

11. The semiconductor device manufacturing system according to claim 1, further comprising a communicating part that sends the cause of particle adhesion to the substrate determined by the determination part to a monitoring station through a communication line.